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**FORCE AND FITNESS REQUIREMENTS TO MEET
THE NATIONAL MILITARY STRATEGY FOR
THE ARMY AFTER NEXT**

BY

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USAWC STRATEGY RESEARCH PROJECT

**Force and Fitness Requirements to Meet the National
Military Strategy for the Army After Next**

by

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ABSTRACT

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PHYSICAL FITNESS REQUIREMENTS MANDATED FOR SOLDIERS IN THE ARMY AFTER NEXT, HIGHLIGHTED BY OUR FORCE XXI DESIGN AND STRATEGY MUST CHANGE TO REFLECT A HIGHER STANDARD. OUR CURRENT BASELINE OF CONDITIONING, PHYSICAL STRENGTH, AND CARDIO-VASCULAR RESPONSE REQUIRED BY ARMY REGULATIONS IS NOT ENOUGH. AS OUR ARMY REVISITS CURRENT DEBATE WITH MEMBERS OF CONGRESS ON THE INSTITUTIONAL CHALLENGES WITH GENDER INTEGRATED TRAINING, THE ABOVE BASELINE BECOMES EVEN MORE THE SOCIAL ISSUE. AS WE ASSESS THE NATIONAL MILITARY STRATEGY AND OUR RESULTANT ARMY AFTER NEXT STRUCTURE TO MEET FUTURE REGIONAL THREATS, IT IS A SENIOR LEADER RESPONSIBILITY TO MAKE THE PHYSICAL STANDARDS MEET REQUIREMENTS. THIS RESEARCH PAPER WILL ANALYZE THE CURRENT UNITED STATES BASELINE OF FITNESS FOR THOSE POTENTIAL SOLDIERS AVAILABLE FOR THE ARMY. IT WILL REVIEW THE EXPECTED REQUIREMENTS ENVISIONED FOR THE YEAR 2020, AND PROVIDE AN ASSESSMENT OF THE PHYSICAL CHALLENGES OUR SOLDIERS WILL FACE IN THE NEXT CENTURY.

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As senior leaders review the essential requirements mandated for the Army After next, it is clear that the investment of physical fitness can be the deciding factor in our next battle.

—MG Robert A. Scales

FORCE AND FITNESS REQUIREMENTS TO MEET THE NATIONAL MILITARY STRATEGY FOR THE ARMY AFTER NEXT

This paper investigates the current United States baseline of fitness for those potential soldiers available for the armed forces - specifically the Army. It will review the expected requirements envisioned for the year 2020, and provide an assessment of the physical challenges our soldiers will face in the next century. The focus in this research is the national issue of overall physical fitness and preparedness the youth of our country receive as part of education. The premise is that our current baseline of conditioning, physical strength, and cardio-vascular response required by army regulations is not enough. The resultant effect is that physical fitness requirements expected of our soldiers in the Army After Next (AAN), reinforced by our Force XXI design and strategy, must change to reflect a higher standard. As we assess the national military strategy and our resultant army after next structure to

meet foreseeable regional threats, our senior leaders must ensure Army physical standards meet the requirements.

BACKGROUND

The United States has reduced its defense purchase power by roughly 38% in the past 13 years. In doing so, we have balanced the federal budget, and even recognized a budgetary surplus to start fiscal year 1999. We have also reduced our military manpower and the overall force structure by 33%. These cuts to the Armed Forces have been reviewed, scrutinized, debated, and war-gamed by expert analysts for several years. With the demise of the former Soviet Union, and the end of the Cold War, our nation's "50 year strategic threat" has vanished. The resultant affect of the above, plus the challenges set forth in the 1997 Quadrennial Defense Review (QDR), mandates the strategic balance between our near term readiness, long term modernization, and logical - although debatable - reductions in defense resources that will sustain our military forces through 2010. These reductions are a manifestation and extrapolation of the ever-changing world, environment, and economic realities of our country's future. The nation's political officials and military leadership must invest its limited dollars available towards those systems, structures, and other resources that have the greatest potential toward bolstering our stated security strategy. Current policy makers and analysts believe an ongoing

"revolution in military (and business) affairs (RMA)" will provide the requisite technology essential to win our future wars, conflicts, and unknown or expected threats.¹ These analysts argue for increased acquisition and procurement of high tech precision guided munitions, attack fighters, maritime power projection platforms, and other service top "wish list" priorities. Taken in context against the spectrum of foreseeable conflicts, analysts believe high tech innovations will truly make a difference. All these are potentially at the expense of ground forces and the strategic need to maximize the rapid response capability of these forces.²

The United States Army is now the world's eighth-largest ground combat force. Our budget outlays for these forces are less than 25% of the total defense spending. It is a measure of resource efficiencies that our land component forces have become strategically mobile and are universally recognized as the "force of choice" for rapid employment worldwide. It does not go unnoticed within the Defense Department that the Armed Forces of the US are continually requested by every major country in the world, through diplomatic channels, to lend its full capability and resources to recurring contingency operations. Our forces routinely operate in more than 70 different countries year round.³

CURRENT MILITARY MANPOWER POLICY

With the above background assessment, it becomes important that our service's force structure be manned with the best available people. The current national security policy towards military manpower requirements is to maintain a "mixed force" comprised of active peacetime component forces, a reserve component of ready, standby, and retired forces, a civilian component, and a combination of contractor and host nation support component personnel.⁴ The Department of Defense Manpower Requirements document further stipulates:

The Department's policy is to maintain as small an active peacetime force as national security policy, military strategy, and overseas commitments permit. Department policy is to employ civilian employees and contractors wherever possible to free our military forces to perform military specific functions, yet maintain emphasis on meeting particular requirements such as the Goldwater-Nichols DoD Reorganization Act of 1986.⁵

In the President's National Security Strategy (NSS), May 1997, he highlights America's three core objectives. The first of these objectives mandates a capable military that must be always ready to fight our Nation's wars and win.⁶ This pronouncement is clearly consistent with the aforementioned national security policy. The larger concerns are the questions, "Does the policy work?" and "Is the projection realistic?" My analysis is that the policy falls drastically short of the strategic intent to provide the requisite quality manpower our

country needs to meet the future challenges and unknown threats outlined in present government and military debate. Although our nation's total available manpower pool of potential service age youth projected for the year 2020 is a measured scientific guess at best, the stated policy remains buoyant that our country will have the sufficient quantity and quality people to meet the President's stated National Security Strategy.

ANALYSIS

Active component force requirements are a function of the expected structure needed to meet future threats. These are derived from multiple sources including historic organizations, use of simulated war games, future senior leader vision, and "educated intuition". Regardless of the source, a quality force end strength and structure for our Army is a gamble against those future adversaries and perceived threats that would strike against our national interests.

Popular debate ranges from the insupportable fiscal realities of a 1.4 million force structure, to argumentative critics pounding away at the present force levels being insufficient to fight and win a two Major Regional Contingency (MRC) conflict.⁷ To maintain our present manpower policy at the level reflected in our NSS will require change in the future.

Even to recruit and maintain that force (about 40 percent of the Cold War military) will be expensive: older and in many cases married, the modern volunteer demands (and gets) a greater range of social

services than the draftees of old. Volunteers require salaries that allow families to live decently. Adjusting to the new size means giving up old structures and radically changing ways of doing business. Some of the services are deeply reluctant to do so.⁸

The end - ways - means review of the current national security policy for manpower requirements reflects future change. The Quadrennial Defense Review highlights meeting our strategic demands while adjusting our organizational structures and decreasing total end strengths.⁹ While the "ends" (i.e., end strength) of our national security policy will become apparent, the "ways" our nation will achieve it, and the "means" by which it is accomplished, will leave the Armed Forces - especially our Army - lacking in the very core principle our Commander-in-Chief has explicitly stated must occur - "...that our military is - and will continue to be - capable of carrying out our national strategy and meeting America's defense commitments around the world."¹⁰

It is clear that new missions, adaptive joint forces, shifting organizational structures, and technological advances in every facet of our armed forces will continue to mandate the best our nation has to offer. Well educated, adaptive, motivated, highly specialized and trained enlisted and officer personnel will be essential to sustain combat readiness in our future Army. Changes in how society views military service by predominately high school graduate age men and women will continue to demand

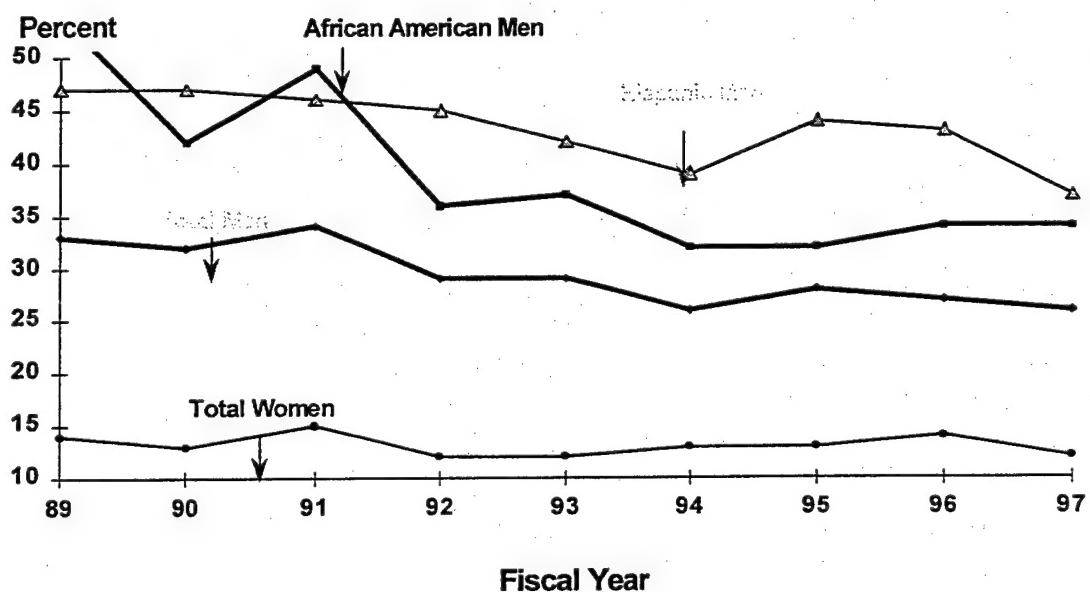
scrutiny on recruitment methodologies of our all-volunteer force to meet published national manpower requirements.¹¹ These types of essential recruiting methods are not currently in place. Even worse, the limited numbers of high school graduate age men and women are predominantly physically unfit, unmotivated, and apathetic towards contributing to the future of our nation in any patriotic endeavor.¹²

Results from the 1997 Youth Attitude Tracking Survey, to be published in early 1999, highlights a continued decline in the desire of our nations youth to serve in our Armed Forces. Since 1975, the Department of Defense annually conducts the Youth Attitude Tracking Study (YATS), a computer-assisted telephone interview of a nationally representative sample of 10,000 young men and women. This survey provides information on the propensity, attitudes, and motivations of young people toward military service. Enlistment propensity is the percentages of youth that state they plan to "definitely" or "probably" enlist in the next few years. Testimony from GEN Dennis Reimer, Chief of Staff, Army, to the Senate Armed Services Committee highlights this grave concern for the future.

I have very serious concerns for the future. The continued strength of the economy, the growing concerns of our soldiers about military pay and benefits (particularly with regard to retirement, health, housing, and base facilities) has the potential to undercut recruiting and retaining quality soldiers. The propensity to serve is declining. Competition with other career opportunities is increasing. The key trend lines are headed in the wrong direction.¹³

Research has shown that the expressed intentions of young men and women are strong predictors of enlistment behavior. Results from the 1997 YATS survey show propensity of 16-21 year-old women for active service has declined, from 14 percent in 1996 to 12 percent in 1997. The following illustration graphically portrays the above trends from 1989 through 1997 by gender and race / ethnicity for the active and reserve component forces:

Propensity to Enlist CY 1997 Results



Enlistment Propensity for 16 to 21 Year-Old Men
Source: Youth Attitude Tracking Study (N = 10,000)

Office of Assistant Secretary of Defense (Force Management Policy)

January 1998

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Figure 1¹⁴ Propensity of National Youth to Military Service

Young women's propensity for the Reserves also declined, from 12 percent in 1996 to nine percent in 1997. Overall, young men's propensity has not changed significantly since 1994.

However, the propensity of young Hispanic men declined in the past year, from 43 percent in 1996 to 37 percent in 1997.¹⁵

To downsize the military following the Cold War, the Services reduced their accession objectives below the levels required to replace those leaving military service. The post Cold War decline in young men's propensity was troubling, but sufficient numbers of men enlisted to meet reduced Service recruiting goals.

Now, as force drawdown objectives are met, recruiting missions are rising to levels required to replace those leaving service. Current YATS results indicate the percentage of young men and women favoring military service is less than before the end of the Cold War.¹⁶ Thus, recruiting high quality, bright, physically fit youth - those essential for the Army After Next -- into the Armed Forces, will continue to be a challenge. We must ask the hard question of our stated goal,... "Is this recruiting effort to support our National Strategy and Army After Next realistically attainable?" My assessment is unless we prioritize significant resources and national effort towards this goal, we will fail. This is not only an Armed Forces issue; it is a United States issue.

The reasons for this alarming dilemma are actually easy to comprehend. Our society has more fancy gymnasiums, spas, and workout centers than ever before, yet we collectively are in the worst physical condition than any time in history.¹⁷ Many adjectives have been proffered in current media. High school kids are marshmallows, couch potato's, the "Nintendo Generation", prone to stress, spoiled rotten, more into "being attractive versus being healthy", and clearly are in worse physical condition than just five to ten years ago. Yearly reports of physical fitness indicators substantiate this trend. The Youth Risk Behavior Survey (YRBS), a national school-based survey of students in grades 9-12, provides data on daily attendance in high school physical education classes. The survey shows conclusively that through the early 1990's, overall enrollment in physical education has not improved, daily attendance has decreased significantly (and becoming even more distant!), and only 19 percent of all high school students were physically active for at least 20 minutes during class time. Each of the above survey findings highlight failures to attain stated national goals set forth in the Surgeon General's Department of Health and Human Services publication, Healthy People 2000.¹⁸ Is this an accurate stereo type of the Nation's children? Does this reflect the young adults of America? Are these our future leaders of society? Is this the Army After Next? The statistics point to yes.

The following chart from recent testimony to the Commission on Military Training and Gender Related Issues highlight key trends that cannot be ignored by our senior Defense Department leadership.

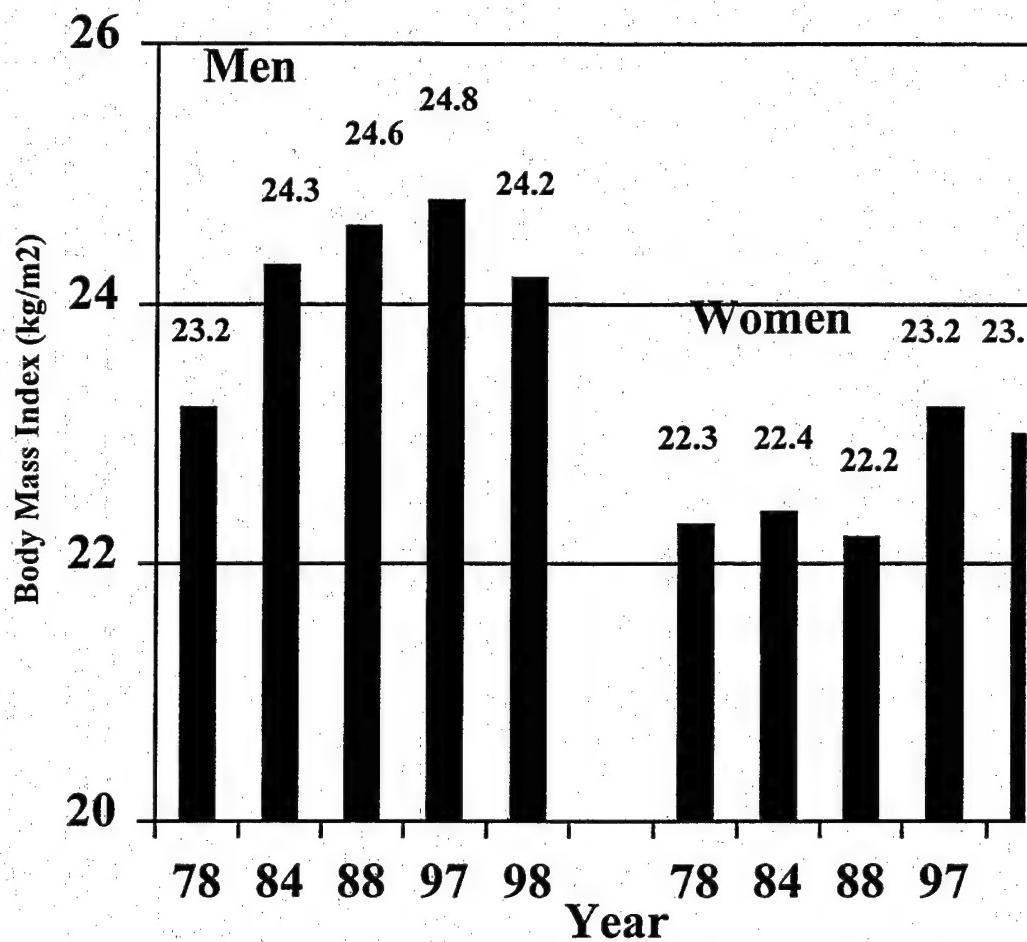


Figure 2¹⁹ Initial Entry Trainee Body Mass Index

Figure 2 above reinforces the National trend of a higher

body mass index²⁰ of available manpower entering military service. Widely accepted by researchers of physical fitness and national trends, body mass index (BMI) measurements are a general but useful indicator of total body composition in survey studies, and are related to overall health and wellness.²¹ The bottom line is that our younger soldiers - the majority of which are right out of high school - continue to perform at an alarmingly poor level of overall physical fitness. This fact remains problematic for recruiters of all services, and even more so for the future strategic land component force requirements of our country.

Our nation's availability of potential manpower for service in our Armed Forces continues to decrease. It is estimated that by the year 2010, the United States will have 35 million high school age youth. The armed forces baseline eligible entrance criteria of education level examination tests, a drug free background, and fundamental fitness requirements, decrease this number by 42%!²² This means that before military recruiters begin to screen potential applicants, many of our nation's sons and daughters cannot even consider service to our country as an option, even if they desired to.²³ Our country is at the 25th anniversary of the "All Volunteer Force" for enlistment to our Armed Forces. Last year marked the first time that recruitment goals were missed. While the Army fell short of approximately 800 soldiers, the nation fell short of nearly 7000 enlistments for our Navy.²⁴

Recent health related fitness tests reported by several states show alarming results. In the early 1990's, California reported that 83% of fifth graders, 79% of seventh graders, and 74% of ninth graders did not meet minimum standards on four out of five tests (pull-ups, sit-ups, one mile run, a sitting stretch, and optional body fat composition test). Soon after, Virginia officials reported that less than one in four state high school students could pass minimum standards of the same tests highlighted above.²⁵ The U.S. Surgeon General's Office reports that only about one-half of school age youths participate in physical activity on a regular basis, and that one-fourth take part in no physical activity at all.²⁶ On April 26, 1995, the United States Public Health Service (PHS) conducted its second review of the published report entitled "Healthy People 2000: National Health Promotion and Disease Prevention Objectives". This report focuses on overall national physical activity and fitness trends and issues in America. The lead government agency for this important document is the President's Council on Physical Fitness and Sports (PCPFS). Part of this progress report reinforced the following endemic problem our nation faces in manning the future force structure with the quality, physically fit men and women essential to readiness. An excerpt of the report states:

PCPFS has recently published a strategic plan that discusses current and future programs and activities in support of the year 2000 objectives... Unfortunately, there are currently no States that require daily

physical education programs as part of the curriculum, and the number of children who participate in daily physical education (objective 1.8) has declined in recent years. Two objectives moving in the wrong direction are the percentage of students engaged in daily school physical education and the proportion of school physical education time that students spend being physically active. For high school students (grades 9 through 12), the data indicate a declining trend in those attending daily physical education from 42 to 34 percent between 1991 and 1993. One approach to help increase participation in school physical education might be to broaden the concept of comprehensive school health to include physical education. CDC is currently funding 10 States to establish the infrastructure for comprehensive school health programs; one of the eight components that can be selected is physical education.²⁷

Only a declining percentage of schools have daily physical education classes, and there is no high school requirement anywhere in the United States to meet any physical fitness standard to graduate. Physical education classes remain prime targets for elimination when public education funding becomes tight. Several leading fitness advocates opine that our nation is on a downward glide path, with more problems ahead than solutions. One estimate claims that over 60% of America's youth are no longer physically active by the time they even reach high school. Again, the extended television time, video games, personal computers with immediate Internet or "AOL" access, and mid afternoon high fat snacks as kids get home from school all compound an already alarming issue.²⁸ This trend is not without historical precedent. The President's Council on Physical Fitness, created in 1956 to meet the growing national concern of

poor physical conditioning of school children, has itself monitored this dilemma. Even with the increased emphasis that this "President's Council" provided, little improvement resulted.

...the U.S. Office of Education found that the physical fitness of American school children did not improve from 1965 to 1975. In 39 out of 40 categories, fitness performances of boys and girls remained unchanged throughout the decade. The one bright spot was that more girls than boys showed improvement, especially in the endurance tests. The President's Council cited two reasons for the substandard physical condition of America's school children: 1) Many schools could not afford adequate physical fitness programs, and 2) Students who had the choice tended to choose physical education programs that did not contribute significantly to fitness. In a report on youth fitness issued in 1995, the President's Council found 'no general gains' over the levels observed in 1975 and 1985. Indeed, the survey concluded that 'there is still a lower level of performance in important components of physical fitness by millions of our youth.'²⁹

It has become a documented and sad testimony of our societal norms, that America's youth are unfit. Perhaps worse than unfit, our society is collectively apathetic and unconcerned about the trend. The future impact of this national trend signals a military force that finds recruitment of qualified men and women for service to our country as a near insurmountable problem. Our country again focuses on medical technology rather than health, fitness, and prevention to solve or fix the larger, National problem.

CURRENT PHYSICAL FITNESS REQUIREMENTS

The Army physical fitness test requires passing three events semi-annually, scoring a minimum of 60 points per event. In the early 1980's, selected military and civilian physical performance experts were challenged to develop a new Army physical fitness test. The task was to establish an age and gender-normed baseline level of fitness for all personnel and administer it anywhere with no equipment. The current APFT was modified to measure physical fitness components, specifically muscular strength, endurance and aerobic capacity, required to enter and stay in the US Army and accomplish the basic skills common to all soldiers. It is not intended to be a combat readiness test that specifically assesses the skills essential for mission accomplishment. To encourage excellence, points were added to the score tables to reward achievements above the minimums and to encourage soldiers to strive for the "max."

The newest APFT standards were based on a study conducted in the early 1990s at Ft. Benning. Soldiers were administered the proposed Army Physical Readiness Test (APRT). Standards were fixed and forwarded to the Cooper Institute for Aerobic Research and Army Research Institute for final review. It was decided that as the proposed APRT was not a readiness test, but a physical fitness test, the name was changed to Army Physical Fitness Test.³⁰

KEY TRENDS FOR THE FUTURE

The future of the military will depend upon the institutions ability to contribute in a viable way to other elements of national power - especially the geo-economic strategies of the twenty first century. How this will be accomplished is the challenge of our senior leadership and our strategic visionaries.³¹ The recent Quadrennial Defense Review provided several significant insights to our National Security Strategy and projections for the future. Clearly, the structure of our armed forces, especially our Army, is reduced in its manning and organizational designs. The QDR offers concerns in both areas.

The change in U.S. strategy away from the global containment of Soviet power to protecting U.S. interests in various regions of the world is, of course, requiring a restructuring of U.S. conventional forces. In our opinion, the new strategy demands that conventional forces that are both strong and agile enough to dissuade and, if necessary, defeat any potential regional aggressor. Given the need for flexibility and the ability to respond quickly to regional contingencies, the United States total force must consist of a higher percentage of active duty troops as opposed to those from the reserves... The Army is the only service that can guarantee America a decisive victory in land combat of the sort that was achieved in the Gulf War. The force projection strategy...requires an Army reconfigured for rapid mobility, not the static forces designed to counter land forces deployed by the NATO to counter the Warsaw Pact in Central Europe. With the inevitable reduction in the size of forces, the emphasis will need to be more on mobile and lethal armies staffed by highly trained and combat-ready personnel.³²

Looking out to the year 2020, our national security policy for manpower requirements, regardless of current or reduced force

structure levels, must adjust to meet the needs of the 21st century. The population of the United States will be aging, located in more urban areas, and include a much larger Hispanic and Asian ethnic cross section of available manpower. There is supporting evidence to indicate a rise in single parent families, and a predicted total population between 265 to 303 million people.³³ The emerging threats envisioned will remain. We will face an asymmetrical enemy that is borderless, highly ideological, technologically adaptive, and innovative. To counter this faceless threat, the ways and means of attracting the highest quality forces from a largely apathetic American public will be one of our greatest national challenges in the future.³⁴

RECOMMENDATIONS FOR THE FUTURE

Assumptions about the future tend to be straightforward versus radical. Although some "futurists" would offer a more Machaveillian approach to the year 2010, 2020 and beyond, our society prefers the believable status quo. Predictably, assumptions made about our future world are based on variables. That is, what are the current variables we "recognize" today that might change or adjust in the future? Clearly, the future will be different, but its effects will be similar to the type of missions, organizational structure, and emerging technologies that we see today. If I were to make drastically different

assumptions about the next millennium (a large, emerging world competitor, routine casual use of weapons of mass destruction by multiple terrorist groups, or significant breakthroughs in fuels and food technologies, etc.), I would get very different results.

There are many factors that will impact on the quality of available national manpower for our Armed Forces in the year 2020 and through the next century. First, the growing size of our population relative to today should provide a sufficient manpower pool for military requirements. Even our lower "propensity" and expected military force requirements against this larger population should be sufficient. The question will remain, however, is will this "available pool" be good enough? A second factor is our source of entrants. Current Army recruiting strategies target the high school diploma markets. Specifically, those high school graduates that are not going immediately to college are prime candidates (though physically unfit). Yet, there is also a two year and a four year college market of available youth (more physically active and fit), that could be recruited. There are many arguments against this "college market", but I believe the arguments are based on recruiting selection instruments developed for a post Vietnam / Cold War Army versus the Army After Next. This paradigm must change. Perhaps revised selection instruments that accurately measure cognitive abilities, personalities, and physical aptitude tied to performance would more closely align to the higher quality of

force essential to the AAN. This approach would also provide a larger eligible pool of available manpower for the services.³⁵ A third factor impacting on the quality of service people available is the state of our national economy. It is no secret that strong economic times mean bad recruiting times for the armed services. Additionally, society overall - similar to national youth propensity - is less patriotic. Parents are more protective of their children, and are less apt to send sons and daughters to serve their country, potentially ending up fighting a military adversary in the future.

Our Armed Forces are currently under going organizational changes. We are collectively in the final year of our planned defense department draw down. As we continue along this strategic azimuth change, perhaps these mission, organizational and technological shifts will adjust the occupational composition to make recruiting easier...or harder? My research concludes that our Army has not looked seriously at this possibility. Another area of potential review is to consider lateral entry into the force versus always at the bottom. Clearly, there are exceptions (medical and legal professions to cite a few), but our recruitment efforts do not target this large available population segment. Statistics reinforce that the 23-35 year old population base, more mature in perspective, and most importantly, physically fit to perform in the military services.

The physical training of the U.S. Army as shown by this research merits increased attention at the younger ages. While the personal fitness of career soldiers (age ≥ 27) appears satisfactory, the fitness of younger soldiers is not. These younger soldiers are failing the APFT at an alarming rate. It is reasonable to demand younger soldiers to be as fit as average civilians. Unfortunately, current Army Regulations require basic combat training (BCT) recruits to reach only bare minimums for graduation standards - a 150 point score out of 300. The next level of advanced individual training (AIT) requires a 180 point score - still well below the Army average of 249 points.³⁶ Yet this "average" level of fitness may not adequately prepare them for the stress of combat. While units employ physical training, the training activities are often more "form than substance." This results in little improvement in unit level, battle-focus physical training. The following figure shows a correlation between the incidence of injuries at our Army basic training institutions and the entry level of physical fitness from the nation's youth.

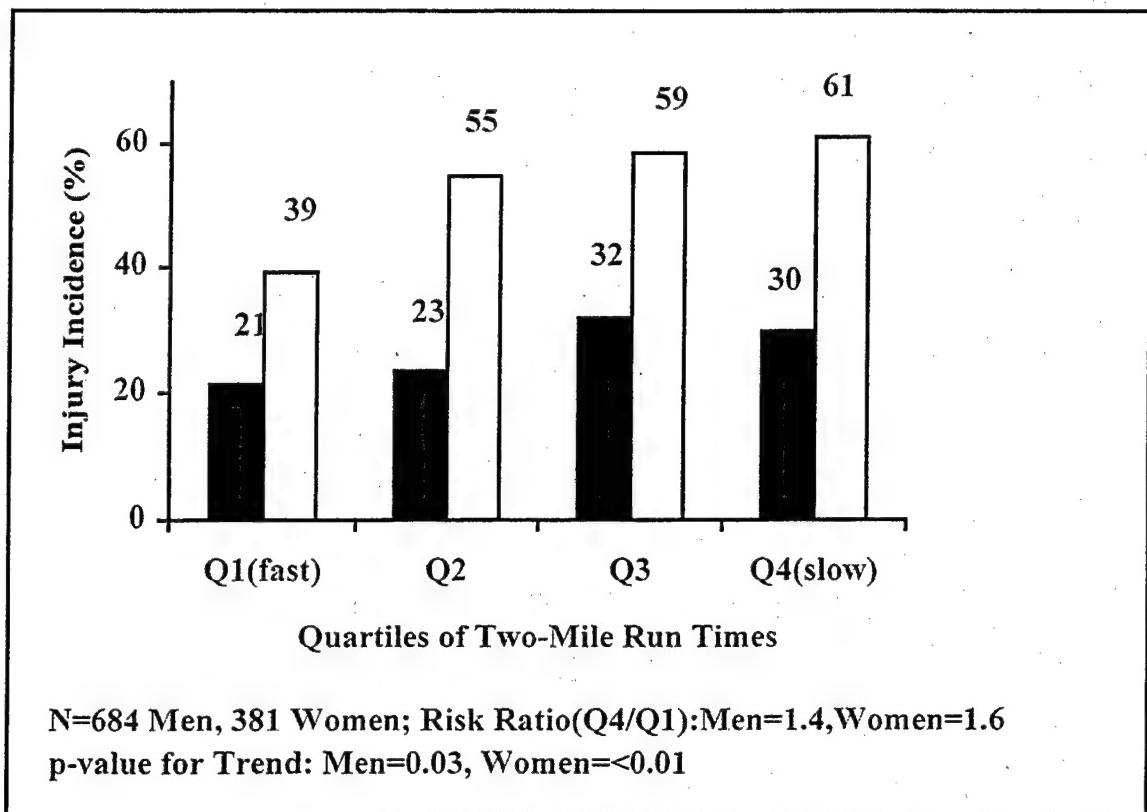


Figure 3³⁷ Association of Injury to Fitness

This figure shows the association between injuries and the two-mile run in both men and women at Fort Jackson, SC, in 1998. Both men and women who run slower (or do fewer push ups or sit-ups) are at increased risk of injury. The association seen in figure 2 between the two mile run and injuries is also seen between VO₂ max³⁸ and injuries. This suggests that aerobic capacity, and not some other component of running is a critical aspect of fitness to injury relationships.³⁹ Though not presented here, the results for the push-ups and sit-ups reinforce similar

low levels of overall fitness in America's military manpower pool.

To meet the strategic manpower needs specified in our national security policy, several recommendations are provided for further study and analysis.

1. As of this writing, additional defense budget dollars have been reallocated for recruitment and retention for Fiscal Year 99. This initiative is specifically designed to enhance enlistment options towards the top high school graduates of our country, and sustain the quality of our current force. If our strategy will remain to attract the very best our nation has to offer, we must continue to put our resource dollars as the "means" to accomplish this end. An overall increase and emphasis on human resources - the Human Dimension - must occur.

2. Similarly, we must add funds for salaries, "status quo" benefits, quality of life, sustainment of entitlements, and basic housing needs. All these go a long way for relatively little expenditure to emphasize the quality forces needed, both in recruitment and retention, in our services. The current realities of the military versus private sector pay inequities underscores to our Armed Forces that the ideals of service to our nation is not worth the hardship.⁴⁰

3. Reconsider the concept of a national service program. This idea has considerable merit, although no popular backing or the will of the American public. Yet involving Americans on an

equitable, voluntary basis in some capacity of service to our nation would clearly strengthen the very fabric of our country. Patriotic character, fitness, sense of self worth, and providing a high quality, ready force if the need arises is certainly vital to our national interest.

4. As a nation, and as the most powerful military force on Earth, we must reinvigorate our holistic approach to fitness of American youth. The current government programs in existence fall short of expectations and intentions. The President's Council on Physical Fitness and Sports remains tied to publishing documents without authority to set or mandate policy or direction for state governments to follow. This must change for success as measured in overall fitness of our nations youth, and the resultant readiness of our Armed Forces.

In conclusion, our national security strategy calls for the military to have Joint services filled with the highest caliber of men and women available from all sectors of American society. This strategy expects our Armed Forces to be able to shape, respond, and prepare - with other elements of national power - our world environment to ensure collective future prosperity of all American citizens, and our national interests.⁴¹ To meet this critical manpower need, the national resources must adjust to ensure our Armed Forces are ready. From a "future fitness" perspective based on current statistics and trends, our available manpower pool will not achieve this objective.

Word Count: 5048

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¹⁸ Department of Health and Human Services, Physical Activity and Health: A Report of the Surgeon General (Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 1996), 186-200.

¹⁹ Dr Joseph Knapik, "Presentation to the Commission on Military Training and Gender-Related Issues", US Army Center for Health Promotion & Preventative Medicine, Aberdeen Proving Ground, MD, 10 Nov 98.

²⁰ W. Larry Kenny et al., American College of Sports Medicine: Guidelines for Exercise Testing and Prescription, 5th ed. (Pennsylvania: Williams & Wilkins, 1995), 59. Body Mass Index (BMI) is used to assess weight relative to height and is calculated by dividing body weight in kilograms by height in meters squared. BMI is a relatively good indicator of total body composition in population based studies and is related to health outcomes.

²¹ Ibid, 59.

²² The ideas in this paragraph are based on remarks made by a speaker participating in the Commandants Lecture Series, Carlisle Barracks, PA, 17 Nov 98.

²³ Ibid.

²⁴ Ibid.

²⁵ Marc Leepson, "Physical Fitness: Has the Fitness Boom of the 1970s and 80s run out of steam?", The CQ Researcher, vol 2, no. 41, Congressional Quarterly, Inc., 6 Nov 92, 957-8.

²⁶ Worsnop, 846.

²⁷ "Progress Report For: Physical Activity and Fitness", an interim assessment of Healthy People 2000; available from <http://odphp.psc.dhhs.gov/PUBS/HP2000/progrvw/PHYS.HTM>. Internet. Accessed 2 Jan 1999.

²⁸ Worsnop, 843.

²⁹ Worsnop, 853.

³⁰ U.S. Army Training & Doctrine Command (TRADOC) Testimony to the Congressional Commission on Military Training, November 10-11, 1998, Washington, DC.

³¹ Jim Hansen, The Next Cold War: American Alternatives for the Twenty First Century (Westport, Conn: Praeger Publishers, 1996), 141.

³² Cohen, William S., 33-35.

³³ David L. Osborne, ed. Domestic Trends to the Year 2015 - Forecasts for the United States. Virginia, Training and Doctrine Command, 1991, 24-42.

³⁴ John S. Butler, "The Changing Requirements of the Military Organizations: The Military 2010", Future Soldiers and the Quality Imperative, Kentucky, US Army Recruiting Command, 1995, 73-92.

³⁵ Harry Thie thie@rand.org, "Military Manpower Research," electronic mail message to J. Michael Bednarek, bednarekj@carlisle.awc.army.mil, 20 Oct 1998.

³⁶ The ideas in this paragraph are based on remarks and information presented by a speaker participating in guest lecture series in support of USAWC Course 130, Health and Fitness Challenges of Future Military Operations, Carlisle Barracks, PA, 26 Feb 99.

³⁷ Knapik, slide 12.

³⁸ W. Larry Kenny et al., American College of Sports Medicine: Guidelines for Exercise Testing and Prescription, 5th ed. (Pennsylvania: Williams & Wilkins, 1995), 63. The definition of VO₂ "maximums" is presently considered the "gold standard" measurement of cardiorespiratory endurance. It directly measures maximal oxygen uptake (VO_{2max}). Measurement of VO_{2max} involves analysis of expired air samples collected while an individual performs exercise of progressing intensity.

³⁹ Dr Joseph Knapik, et.al., "Injury Incidence, Injury Risk Factors, and Physical Fitness of US Army Basic Trainees at Ft Jackson SC.", US Army Center for Health Promotion and Preventive Medicine Epidemiological Consultation, 1997, 29-HE-7513-98.

⁴⁰ Joseph J. Collins, "The Complex Context of American Military Culture: A Practitioner's View", The Washington Quarterly, vol 21, no.4, Center for Strategic and International Studies, 1998, 213-226.

⁴¹ Cohen, William S., iv.

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